ABSTRACT

A numerically controlled curved-surface machining unit comprises a component converting matrix•angle-addition value forming function of converting CL (cutter location) data into components on a normal coordinate system on the basis of the machine configuration of the simultaneous multiple-axis control NC machine, a component converting function of converting from the workpiece coordinate system to the normal coordinate system, a function of forming second angles of a second rotary axis on the normal coordinate system, a compensating function of forming a continuous angle distribution from a distribution of the second angles, a function of forming first angles of a first rotary axis on a coordinate system rotated by the second angles at the second rotary axis, a compensating function of forming a continuous angle distribution from a distribution of the first angles, a machine coordinate transformation matrix forming function of obtaining a matrix for converting the tool control point vectors on the workpiece coordinate system into a machine coordinate system by using the first angles and the second angles, and a machine coordinate converting function of converting the tool control point vectors into the machine coordinate system by using the machine coordinate transforming matrix.